Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2019–20

Class: I B Tech Branch-Section: IT-A Semester: II

Subject: Programming for Problem Solving Lectures per week: 4

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Introduction to Programming		
1	Components of a computer system	17 January 2020
2	Number systems	20 January 2020
3	Algorithms	21 January 2020
4	Flowchart/Pseudo code	22 January 2020
5	Program design and structured programming	24 January 2020
6	Introduction to C Programming Language	27 January 2020
7	Variables	28 January 2020
8	data types	29 January 2020
9	Syntax and Logical Errors in compilation	31 January 2020
10	object and executable code	3 February 2020
11	Operators, expressions and precedence	4 February 2020
12	expression evaluation	5 February 2020
13	Storage classes (auto, extern, static and register)	7 February 2020
14	type conversion	10 February 2020
15	The main method and command line arguments	11 February 2020
16	Bitwise operations: Bitwise AND, OR, XOR and NOT operators	12 February 2020
17	Conditional Branching and Loops	14 February 2020
18	I/O: Simple input and output, Formatted I/O	17 February 2020
19	Introduction to stdin, stdout and stderr, Command line arguments	18 February 2020
UNIT – II: Arrays, Strings, Structures and Pointers		
20	One and two dimensional arrays	19 February 2020
21	Creating, accessing and manipulating elements of arrays	24 February 2020
22	Introduction to strings, handling strings as array of characters	25 February 2020
23	Basic string functions available in C (strlen, strcat, strcpy, strstr etc.)	26 February 2020
24	Arrays of strings	28 February 2020
25	Structures: Defining structures, initializing structures	2 March 2020
26	Unions, Array of structures, Pointers: Idea of pointers, Defining pointers	3 March 2020
27	Pointers to Arrays and Structures, Use of Pointers in self-referential structures	4 March 2020
28	Usage of self-referential structures in linked list, Enumeration data type	10 March 2020
UNIT – III: Preprocessor and File handling in C		
29	Commonly used Preprocessor commands- include, define, undef	11 March 2020
30	if, ifdef, ifndef	13 March 2020
31	Text and Binary files	16 March 2020
32	Creating, reading and writing text and binary files	17 March 2020
33	Examples related to files	18 March 2020
34	Appending data to existing files	20 March 2020
35	Writing and reading structures using binary files	23 March 2020
36	Random access using fseek, ftell and rewind functions	24 March 2020
UNIT – IV: Function and Dynamic Memory Allocation		
37	Functions: Designing structured programs	27 March 2020
38	Declaring a function, Signature of a function	30 March 2020
39	Parameters and return type of a function	31 March 2020
40	Passing parameters to functions	1 April 2020

41	Call by value, Passing arrays to functions	3 April 2020
42	Passing pointers to functions, idea of call by reference	6 April 2020
43	Some C standard functions and libraries	7 April 2020
44	Recursion: Simple Programs-Finding Factorial, Fibonacci series	8 April 2020
45	Limitations of Recursive functions	13 April 2020
46	Dynamic memory allocation: Allocating and freeing memory	15 April 2020
47	Allocating memory for arrays of different data types	17 April 2020
UNIT – V: Introduction to Algorithms		
48	Algorithms for finding roots of a quadratic equations	20 April 2020
49	Finding minimum and maximum numbers of a given set	21 April 2020
50	Finding if a number is prime number	22 April 2020
51	Searching and sorting techniques introduction	24 April 2020
52	Basic searching in an array of elements- Linear search, Binary search techniques	27 April 2020
53	Algorithm to sort array of elements –Bubble sort algorithm, Insertion sort algorithm, Selection sort algorithm	28 April 2020
54	Basic concept of order of complexity through the example programs	29 April 2020
55	Revision	1 May 2020

Text books:

1. Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill
2. B.A. Forouzan and R.F. Gilberg C Programming and Data Structures, Cengage Learning, (3rd Edition)

Name and signature of the faculty: Mrs D Swetha

Name and signature of Head of the Department: Mr C Murugamani